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REMARKS

This amendment is filed in response to an Office Action mailed 08/24/2004. in
which the Examiner said that claims 1-32 were pending but rejected. In this

5   amendment, claims 1, 2, 7, 13, 17, 22, 26, 27, 29, 31, and 32 are amended to
overcome reasons for rejections given by the Examiner, and new claims 33-36
are added.

Claims Rejected under 35 USC §102

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In the above-mentioned Office Action, the Examiner said that claims 1-4, 13-19,
and 26-28 were rejected under 35 USC §103(b) as being anticipated by being
anticipated by U.S. Pat. No. 6,026,016 to Gafken.

15   **Regarding claims 1, 13, and 26** the Examiner said, "Claim 1 recites a method for
updating a protected partition within a hard drive of a computing system, wherein
said method comprises (See Gafken Fig. 5): starting execution of an initialization
program in a processor within said computing system in response to turning on
electrical power within said computing system (See Gafken Col. 3 Paragraph 2 Lines

20   1-4); determining whether an update partition file is stored in non-volatile storage
(See Gafken Col. 5 Paragraph 5) within said computing system for subsequently
updating said protected partition (See Gafken Col. 13 Paragraphs 4 and 7); after
determining that said update partition is stored within said computing system for
updating said protected partition, writing a portion of said update partition file to said

25   protected partition (See Gafken Col. 13 Paragraph 8); and locking said protected
partition to prevent further modification of information stored within said protected
partition (See Gafken Col. 13 Paragraph 9 - Col. 14 Paragraph 1)."

The Examiner additionally said, "Claim 13 recites a method for updating a protected partition within a hard drive of a client computing system, wherein said method comprises: generating an update partition file within a server (See Gafken Col. 12 Paragraph 7 - Col. 13 paragraph 1, wherein it was inherent that

5   the server created the image by signing it in order for the server to be verified through digital signatures); transferring said update partition file from said server to said client computing system (See Gafken Col. 12 Paragraph 5); storing said update partition file in non-volatile storage within said client computing system (See Gafken Col. 5 Paragraph 5); starting execution of an initialization program

10   in a processor within said client computing system in response to turning on electrical power within said client computing system (See Gafken Col. 3 paragraph 2 Lines 1-4); determining that said update partition file is stored in non-volatile storage within said client computing system (See Gafken Col. 13 Paragraphs 4 and 7); writing a portion of said update partition file to said

15   protected partition (See Gafken Col. 13 Paragraph 8); and locking said protected partition to prevent further modification of information stored within said protected partition (See Gafken Col. 13 Paragraph 9 - Col. 14 Paragraph 1."

The Examiner further said, "Claim 26 recites a computer system comprising: a

20   processor executing an initialization program in response to power being turned on in said computer program (See Gafken Fig. 1 Element 110); a hard drive having a protected partition blocked during execution of an initialization program to prevent changing information stored within said protected partition (See Fig. 1 Element 130); nonvolatile storage storing an update partition data structure for

25   modifying contents of said protected partition and said initialization program, wherein said initialization program executing within said processor determines that said update partition data structure is stored in said non-volatile storage, writes a portion of said update partition data structure to said protected partition, and locks said protected partition to prevent further modification of information

30   stored within said protected partition (See rejection of claim 1 above)."

In this amendment, claims 1, 13, and 26 are each amended to replace the requirement for writing a portion of said update partition file to said protected partition with requirements for:

5   comparing information stored in said protected partition with information within said update partition file;

when a matching portion of said information stored in said protected partition is found to be similar to a portion of said information stored within said update partition file, overwriting said matching portion
10   with said portion of said information stored in said protected partition if space around said matching portion is sufficient; and

when a matching portion of said information stored in said protected partition is not found to be similar to a portion of said information stored within said update partition file, writing said portion of said
15   information stored within said update partition file to appended to said information stored in said protected partition if space within said protected partition is sufficient

Support for this modification is found in the specification as originally filed on
20   page 17, line 24, through page 18, line 11. Gafken does not anticipate these new requirements of claim 1, as modified herein. Instead, in column 13, lines 26-34, Gafken teaches including a base address within the update partition file, with the base address being then used to locate the area at which information from the partition update file is to be written to the protected partition.

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The method of the Applicants' invention has a significant advantage over the method of Gafken in that the method of the Applicants' invention can be used to modified protected partitions in a number of systems where the information to be replaced is stored at various different locations within the protected partitions of
30   the different systems.

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Therefore, the Applicants further respectfully submit that claims 1, 13, and 26, as amended herein, are patentable under 35 USC §102(b) as not being anticipated by Gafken.

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Regarding claims 2, 17, and 27, the Examiner said, "Claim 2 recites that a flag bit is set in non-volatile storage within said computing system when said update partition file is stored in non-volatile storage within said computing system (See Gafken Col. 13 Paragraph 4), and determining whether said update partition is

10   stored within said computing system for updating said protected partition is performed by determining whether said flag bit is set (See Gafken Col. 13 Paragraph 7 and Fig. 5 Step 550)." The Examiner also said that claims 17 and 27 were rejected for the same reasons as claim 2.

15   However, in accordance with the method of the Applicants' invention, the protected partition is always written to the same, predetermined location, so that there is no need to write and subsequently to read an address for the update, in the manner taught by Gafken. Instead, in accordance with the Applicants' invention, a check bit is set and read. This process is essentially simpler than the process of Gafken, and

20   is therefore not equivalent thereto.

In this amendment, claim 2 is modified to include a requirement that the update partition must be stored at a predetermined location in non-volatile storage. Support for this modification is found in the specification as originally filed on page 14, lines

25   11-17.

Therefore, the Applicants respectfully submit that Gafken does not anticipate the requirements of claim 2 for a flag bit to be set in non-volatile storage within said computing system when said update partition file is stored in non-volatile storage within said computing system, and for the determination of whether said update

30   partition is stored within said computing system for updating said protected

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partition to be performed by determining whether said flag bit is set. For this reason, and additionally, since claim 2 merely adds limitations to claim 1, for reasons discussed above regarding claim 1, the Applicants respectfully submit that claim 2 is patentable under 35 USC §102(b) as not being anticipated by

5   Gafken.

Regarding claims 3, 4, 14-16, 18, and 28 since these dependent claims 3 and 4 merely add limitations to claim 1, since claims 14-16 and 18 merely add limitations to claim 13, and since claim 28 merely adds limitations to claim 26, the

10   Applicants respectfully submit that claims 3, 4, 14-16, 18, and 28 are patentable under 35 USC §102(b) as not being anticipated by Gafken for reasons described above in reference to claims 1, 13, and 26.

Claims Rejected under 35 USC §103

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Regarding claims 5, 6, 20 and 21, the Examiner said that these claims were rejected under 35 U.S.C. 103(a) as being unpatentable over Gafken as applied to claims 3 and 18 above, and further in view of Schneier ("Applied Cryptography").

20   The Examiner also said, "Gafken disclosed the use of digital signatures, including public and private keys, in order to verify that a valid server generated the boot image (See Gafken Col. 12 Paragraph 7 - Col. 13 Paragraph 1), but Gafken did not disclose the use of a password in the signature. However, Gafken did disclose the use of password challenges. Schneier teaches that providing

25   a random number (password), supplied by a receiver to a sender, in a digital signature of the sender, causes the signature to be undeniable and therefore secure (See Schneier Page 81). It would have been obvious to the ordinary person skilled in the art at the time of invention to employ the teachings of Schneier to the validation signatures of Gafken by providing predetermined

30   random number in the signature of the update image. This would have been

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obvious because the ordinary person skilled in the art would have been motivated to provide protection against illicitly signed updates.

However, claims 5 and 6 merely add limitations to claim 1, while claims 20 and 21 merely add limitations to claims claim 13. The Applicants respectfully submit that adding the cited information of Schneier to the disclosure of Gafken does not overcome the failure of Gafken to anticipate the requirements of claims 1 and 13, as described above. Therefore, the Applicants respectfully submit that claims 5, 6, 20, and 21 are patentable under 35 USC §103(a) over Gafken in view of Schneier.

Regarding claims 7, 8, 22, 23, and 29, in the above-mentioned Office Action, the Examiner said, "these claims are rejected under 35 U.S.C. 103(a) as being unpatentable over Gafken as applied to claims 1, 13, and 28 above, and further in view of Hayashi et al. (US 2001/0039651 A1) hereinafter referred to as Hayashi. Gafken disclosed digitally signing the update file and verifying the signature prior to updating the partition (See Gafken Col. 12 Paragraph 7 - Col. 13 Paragraph 1), but Gafken failed to disclose encrypting portions of the file separately and verifying each portion individually. Hayashi teaches a method for providing a variety of software safely by breaking the file into pieces and decrypting each piece separately (See Hayashi Page 1 Col. 2 Paragraphs 3-10). It would have been obvious to the ordinary person skilled in the art at the time of invention to employ the teachings of Hayashi to the updating system of Gafken by encrypting parts of the file separately from the other parts. This would have been obvious because the ordinary person skilled in the art would have been motivated to provide users with customized software without imposing too much of a load on the provider."

However, in the method of the Applicants' invention, information within the update partition file is divided into a number of separate entries not to simplify an

encryption or decryption process, but rather to provide for the writing of information at various locations that may not be contiguous within the protected partition. Thus, a separate process for finding a location to write data is performed for each entry.

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Regarding claims 7, 22, and 29, in this amendment, these claims are each modified to include a requirement that each entry within said plurality of entries includes information to be stored at a different location within said protected file partition. Support for this additional requirement is found in the specification as

10   originally filed on page 11, line 25, through page 12, line 2.

The Applicants respectfully submit that Gafken and Hayashi, taken separately or in combination, do not teach, describe, or otherwise anticipate the new requirements added herein to claim 1, as described above, upon which claim 7

15   depends, the new requirements of claim 13, upon which claim 22 depends, and the new requirements added to claim 26, upon which claim 29 depends. Therefore, for reasons advanced above in reference to claims 1, 13, and 26 the Applicants respectfully submit that claim 7, 22, and 29 are patentable under USC §103(a) over Gafken in view of Hayashi.

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Additionally, the Applicants respectfully submit that Gafken and Hayashi, taken separately or in combination, do not teach, describe, or otherwise anticipate the new requirements added herein to claims 7, 22, and 29, as amended herein, that each entry within the plurality of entries must include information to be stored at a

25   different location within the protected file partition. Therefore, the Applicants respectfully submit that claims 7, 22, and 29 are patentable under USC §103(a) over Gafken in view of Hayashi.

Regarding claims 8 and 23, the Applicants respectfully submit that, since these

30   claims merely add limitations to claims 7 and 22, respectively, these claims are

patentable under USC §103(a) over Gafken in view of Hayashi for reasons described above in referenced to claims 8 and 23.

Regarding claims 9, 10, 24, 30, 31, and 32, the Examiner said that these claims were rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Gafken and Hayashi as applied to claims 7, 22 and 29 above, and further in view of the combination of Schneier.

The Examiner further said, "Gafken and Hayashi disclosed the use of digital signatures, including public and private keys, in order to verify that a valid server generated the boot image parts (See Gafken Col. 12 Paragraph 7 - Col. 13 Paragraph 1), but Gafken and Hayashi did not disclose the use of a password in the signature. However, Gafken and Hayashi did disclose the use of password challenges (See Gafken Col. 12 Paragraph 7 - Col. 13 Paragraph 1). Schneier teaches that providing a random number (password), supplied by a receiver to a sender, in a digital signature of the sender, causes the signature to be ndeniable and therefore secure (See Schneier Page 81). It would have been obvious to the ordinary person skilled in the art at the time of invention to employ the teachings of Schneier to the validation signatures of Gafken and Hayashi by providing predetermined random number in the signatures of the update parts. This would have been obvious because the ordinary person skilled in the art would have been motivated to provide protection against illicitly signed update parts."

Regarding claims 9, 10, 24, and 30, the Applicants respectfully submit that, since claim 9 and 10 depend upon claim 7, since claim 24 depends upon claim 22, and since claim 30 depends upon claim 29, these claims are patentable under 35 USC §103(a) over Gafken and Hayasi and further in view of the combination of Schneier for reasons advanced above in reference to claims 7, 22, and 29. The Applicants note that adding the information of Schneier t to the disclosure of Gafken and Hayashi does not provide anticipation of the additional requirements discussed above in reference to claims 7, 22, and 29.

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Regarding claim 25, the Applicants have not been able to find remarks from the Examiner directed toward this claim. However, the Applicants respectfully submit that claim 25 is patentable over the cited art for reasons described above in reference to claim 24, upon which claim 25 depends.

Regarding claims 31 and 32, in this amendment, claims 31 and 32 are each amended herein to include a requirement that each entry within said plurality of entries includes information to be stored at a different location within said protected file partition. Support for this additional requirement is found in the specification as originally filed on page 11, line 25, through page 12, line 2. The Applicants respectfully submit that Gafken, Hayasi, and Schneier, taken separately or in combination, do not teach, describe, or otherwise anticipate this additional requirement. Therefore, the Applicants respectfully submit that claims 31 and 32 are patentable under 35 USC §103(a) over Gafken and Hayasi and further in view of the combination of Schneier.

Regarding claim 11, the Examiner said that this claim was rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Gafken and Hayashi as applied to claim 7 above, and further in view of Hasbun et al. (U.S. Patent Number 6,088,759) hereinafter referred to as Hasbun.

The Examiner also said, "Gafken and Hayashi disclosed a method for updating a bios with a file consisting of multiple parts (See rejection of claim 7 above), but failed to disclose overwriting similar parts and appending new parts. Hasbun teaches that a bios update can be allocated into virtual blocks so that the blocks can be updated individually without having to erase the entire memory first (See Hasbun Col. 5 Paragraph 6 - Col. 6 Paragraph 2). Hasbun also teaches that new blocks should be allocated from existing free memory (See Hasbun Col. 7 Paragraph 2) . It would have been obvious to the ordinary person skilled in the

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art at the time of invention to employ the teachings of Hasbun to the bios updating system of Gafken and Hayashi by updating each update part one at a time. This would have been obvious because the ordinary person skilled in the art would have been motivated to provide a safe method for updating a bios

5   without risking loss of the entire bios in the event of a power failure. 36

However, in the method of the Applicants' invention, information within the update partition file is divided into a number of separate entries not to reduce the risk of data loss in the event of a power failure, but rather to provide for the

10   writing of information at various locations that may not be contiguous within the protected partition. Thus, a separate process for finding a location to write data is performed for each entry.

Therefore, the Applicants respectfully submit that adding the disclosure of

15   Hashbun et al. to the disclosures of Gafken and Hayashi does not provide anticipation of the requirement of claim 7, as amended herein, for each entry within the plurality of entries to include information to be stored at a different location within the protected file partition. For this reason, the Applicants respectfully submit that claim 11 is patentable under 35 USC §103(a) as not

20   being anticipated by Gafken in view of Hayashi and further in view of Hashbun.

Regarding claim 12, the Examiner said that this claim was rejected under 35 U.S.C. 103(a) as being unpatentable over Gafken as applied to claim 1 above, and further in view of Schmidt (U.S. Patent Number 5,826,015).

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The Examiner also said, "Gafken disclosed a secure bios updating system (See rejection of claim 1 above) but failed to disclose requiring a user to input a password to unlock the bios write capabilities. However, Gafken did disclose the use of password challenges (See Gafken Col. 12 Paragraph 7 - Col. 13

30   Paragraph 1). Schmidt teaches that in order to remotely upgrade a bios, an

administrator password should be provided in order to unlock the partition (See Schmidt Fig. 9 and abstract). It would have been obvious to the ordinary person skilled in the art at the time of invention to employ the teachings of Schmidt to the bios updating system of Gafken by requiring a correct password to be entered in order to unlock the bios altering capabilities. This would have been obvious because the ordinary person skilled in the art would have been motivated to protect the current bios from accidental or illicit alterations."

However, the Applicants respectfully submit that adding the disclosure of Schmidt to that of Gafken does not overcome the deficiencies of Gafken in anticipating the new requirements added to claim 1, upon which claim 12 depends, as explained above regarding claim 1. Therefore, the Applicants respectfully submit that claim 12 is patentable, with claim 1 amended as described above, under 35 USC §103(a) as not being anticipated by Gafken in view of Schmidt.

New Claims

In this amendment, claims 33, 34, and 35 are added, depending upon claims 20, 24, and 32, indicating that a copy of the setup password is stored for access by the server while setting a configuration of the client (or remote) computing system. Support for this amendment is found in the specification as originally filed on page 12, line 18-21. Claim 36 is also added, depending upon claim 32, to indicate that a copy of the public key of the remote computer system is stored for access by the server while setting a configuration of the remote computing system.

These additional requirements provide methods having advantages of efficiency for the organization that set the configurations of the remote computing systems when this organization wishes to update the configurations of the remote
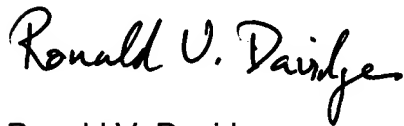
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systems. The Applicants respectfully submit that these new claims 34-36 are patentable over the prior art cited by the Examiner, since Gafken, Schneier, Hayashi, Hasbun, and Schmidt, taken together or separately, do not teach, describe, or otherwise anticipate a process of storing a setup password or a

5   public key of the client computer system for later use in reconfiguration while setting up the client computer system.

Conclusions:

10   The Applicants respectfully submit that the application, including claims 1-36, is now in condition for allowance, and that action is respectfully requested, along with reconsideration and withdrawal of all rejections.

Respectfully Submitted,

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